



The U.S. Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by the Department of Justice. Information, instruction, and disclaimers are published in the January issues.

– NOVEMBER 2012 –

SELECTED REFERENCES

[The Selected References section is a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. Abbreviated mailing address information duplicates that which is provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number. For full text copies of any of the articles listed, you may email the DEA Library at dea.library@usdoj.gov.]

1. Abdel-Hay KM, DeRuiter J, Clark CR. **Differentiation of methoxybenzoyl-piperazines (OMeBzPs) and methylenedioxybenzylpiperazines (MDBPs) by GC-IRD and GC-MS.** *Drug Testing and Analysis* 2012;4(6):430-440. [Editor's Notes: Presents title study. Contact: Harrison School of Pharmacy, Auburn University, Auburn, AL 36849-5320 USA.]
2. Gottardo R, Bertaso A, Pascali J, Sorio D, Musile G, Trapani E, Seri C, Serpelloni G, Tagliaro F. **Micellar electrokinetic chromatography: A new simple tool for the analysis of synthetic cannabinoids in herbal blends and for the rapid estimation of their log P values.** *Journal of Chromatography A* 2012;1267:198-205. [Editor's Notes: Presents title study. Contact: Department of Public Health and Community Medicine, Unit of Forensic Medicine, University of Verona, Verona, Italy.]
3. Higuchi M, Saito K. **Rapid screening for synthetic cannabinoids and cathinones using direct analysis in real time (DART)-TOF-MS.** *Bunseki Kagaku* 2012;61(8):705-711 (Japanese). [Editor's Notes: A screening method that uses Direct Analysis in Real Time (DART) time-of-flight (TOF) mass spectrometry (MS) was developed. The mass spectra clearly showed all peaks representing the protonated molecules of 14

synthetic cannabinoids and 3 synthetic cathinones. The analysis of samples of herbal products, plant leaves, and tablets was possible without any pre-processing of the samples. As a result, stimulants, cannabis components, and several synthetic cannabinoids (JWH-210, AM2201, JWH-203, JWH-081, 4-methyleth-cathinone, and naphyrone) were identified in each sample. Contact: Criminal Investigation Laboratory, Saitama Prefectural Police H.Q., Urawa-ku, Saitama-shi, Saitama 330-0042, Japan.]

4. Maheux CR, Copeland CR. **Chemical analysis of two new designer drugs: Buphedrone and pentedrone.** Drug Testing and Analysis 2012;4(1):17-23. [Editor's Notes: Presents title study. Contact: Canada Border Services Agency, Ottawa, Ontario, Canada.]
5. Vardakou I, Pistos C, Dona A, Spiliopoulou C, Athanaselis S. **Naphyrone: A "legal high" not legal any more.** Drug and Chemical Toxicology 2012;35(4):467-471. [Editor's Notes: This review presents information about naphyrone's safety profile, clinical data, and analytical profile. Contact: Department of Forensic Medicine and Toxicology, School of Medicine, National and Kapodistrian University of Athens, Athens, Greece.]

Additional References of Possible Interest:

1. Cole C, Jones L, McVeigh J, Kicman A, Syed Q, Bellis M. **Adulterants in illicit drugs: A review of empirical evidence.** Drug Testing and Analysis 2011;3(2):89-96. [Editor's Notes: Presents title review. Contact: Centre for Public Health, Liverpool John Moores University, United Kingdom.]
2. Deconinck E, Canfyn M, Sacre PY, Baudewyns S, Courselle P, De Beer JO. **A validated GC-MS method for the determination and quantification of residual solvents in counterfeit tablets and capsules.** Journal of Pharmaceutical and Biomedical Analysis 2012;70:64-70. [Editor's Notes: A fast headspace GC/MS method was developed and validated for the detection and quantification of residual solvents in counterfeit tablets and capsules. The method was validated for ten solvents including ethanol, 2-propanol, acetone, ethylacetate, chloroform, carbon tetrachloride, benzene, toluene, dichloromethane, and ethylbenzene. Contact: Division of Food, Medicines and Consumer Safety, Section Medicinal Products, Scientific Institute of Public Health (WIV-ISP), J. Wytmanstraat 14, Brussels B-1050, Belgium.]
3. Holness HK, Jamal A, Mebel A, Almirall JR. **Separation mechanism of chiral impurities, ephedrine and pseudoephedrine, found in amphetamine-type substances using achiral modifiers in the gas phase.** Analytical and Bioanalytical Chemistry 2012;404(8):2407-2416. [Editor's Notes: Presents title study. Contact: Department of Chemistry and Biochemistry and International Forensic Research Institute, Florida International University, Miami, FL 33199, USA.]
4. Lund H, Loevsletten K, Paus E, Halvorsen TG, Reubsæet L. **Immuno-MS based targeted proteomics: Highly specific, sensitive, and reproducible human chorionic gonadotropin determination for clinical diagnostics and doping analysis.** Analytical Chemistry 2012;84(18):7926-7932. [Editor's Notes: Presents title study. Contact: Department of Pharmaceutical Chemistry, School of Pharmacy, University of Oslo, Oslo, Norway.]

5. Rao P, Reddy GLN, Vikram KS, Ramana JV, Chattopadhyay N, Basu AK, Srivastava S, Sarin RK, Raju VS, Kumar S. **Simultaneous determination of ^{14}N and ^{15}N isotopes in opium by proton induced gamma-ray emission technique.** Journal of Radioanalytical and Nuclear Chemistry 2012;294(1):127-130. [Editor's Notes: The determination of ^{14}N and ^{15}N isotopes in opium by proton induced gamma-ray emission (PIGE) technique is reported. The isotopic ratio of ^{14}N and ^{15}N can be used in the determination of the area of origin of illicit drugs. The measurement, non-destructive in nature, is performed on pellets made up of opium powders and is based on the prompt detection of 2.313 and 4.4 MeV gamma-rays emanating from $^{14}\text{N}(\text{p},\text{p}'\gamma)^{14}\text{N}$ and $^{15}\text{N}(\text{p},\alpha\text{p}\gamma)^{12}\text{C}$ nuclear reactions respectively, induced simultaneously by 3.6-3.8 MeV proton beam. Contact: National Centre for Compositional Characterization of Materials, Bhabha Atomic Research Centre, ECIL Post 500062, India.]

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THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

The Journal/Textbook Collection Exchange is a service intended to facilitate the transfer of unwanted journals and textbooks to forensic libraries or other *Microgram* subscribers.

The DEA Office of Forensic Sciences is looking for donation of the following items:

1. Journal of Forensic Sciences, 1960 through 1965, either bound or individual issues.

If you can assist, please contact Dr. Bob Klein at: robert.x.klein@usdoj.gov.

All subscribers are encouraged to donate surplus or unwanted items/collections. Reference texts and long runs of forensic/analytical journals are of particular interest; however, even single issues are worthwhile, and may fill a hole in an existing collection. If interested, please consult the *Microgram* website or contact the *Microgram* Editor for further instructions.

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THE DEA STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The schedule for the DEA State and Local Forensic Chemists Seminar is as follows:

March 11 - 15, 2013
June 10 - 14, 2013
September 16 - 20, 2013
November 4 - 8, 2013

The school is open only to forensic chemists working for law enforcement agencies. It is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge. The course is held at the Hyatt Place Dulles North Hotel in Sterling, Virginia (near the Washington/Dulles International Airport). A copy of the application form is reproduced on the last page of this issue of *Microgram Bulletin*. Completed applications should be mailed to the Special Testing and Research Laboratory at 22624 Dulles Summit Court, Dulles, VA 20166. For additional information, email DEA-Forensic.Chemist.Seminar@usdoj.gov.

DEA State and Local Forensic Chemist Seminar Application			
Name: (PRINT NAME EXACTLY AS IT IS TO APPEAR ON CERTIFICATE)		Title:	
Employer:			
Your Office Mailing Address (include city, state, and zipcode):			Length of Service:
Business Telephone: () -	Business Fax: () -	Date of Application:	
Email Address:			
Education			
College or University	Degree	Major	
Please Check Which Techniques or Equipment Are Used in Your Laboratory			
<input type="checkbox"/>	Color Tests	<input type="checkbox"/>	UV
<input type="checkbox"/>	Column Chromatography	<input type="checkbox"/>	IR
<input type="checkbox"/>	Microcrystal Tests	<input type="checkbox"/>	CE
<input type="checkbox"/>	Thin Layer Chromatography	<input type="checkbox"/>	GC/MS
<input type="checkbox"/>	GC	<input type="checkbox"/>	Other (please specify)
<input type="checkbox"/>	HPLC	<input type="checkbox"/>	Other (please specify)
Indicate Analytical Problem(s) Nominee Would Like to Have Covered:			
Choice of Seminar Dates:			
1st Choice:		2nd Choice:	
Laboratory Chief/Director:			
Printed Name: _____		Signature: _____	
Title: _____		Date: _____	
Phone: _____			